REMARKS

This is in response to the Office Action dated January 18, 2005. Claims 12 and 14-15 are pending. Since the only claims changes herein are to address the Section 112 rejection by adding commas, this amendment should be entered as no new issues have been presented.

Initially, applicant notes that the Office Action appears to have included a copy of the previous Office Action along with a copy of the current Office Action. Thus, it appears as if the first pages (pages 2-9) of the Office Action should be ignored since they appear to have been incorrectly included in the Office Action. If applicant's understanding is incorrect in any way, please advise the undersigned.

The units (Ω/□) for sheet resistance in the instant specification are objected to. In particular, the Office Action states that "□" is unrecognized. This objection is respectfully traversed. In particular, **"□" means square**. Sheet resistance is almost always measured in units of ohms/square, and this is well know to those of skill in the art. Those of ordinary skill in the art typically use "Ω/□" as a representation of ohms/square. The instant specification does this. Certainly, the instant specification at page 2, line 26, clearly states that □ means square as is known in the art. Thus, it is respectfully requested that this formality objection to the specification be withdrawn.

Section 112 Rejection

Claims 12, 14 and 15 stand rejected under Section 112, first paragraph, in paragraphs 2-3 of the Office Action. In particular, the Examiner seems to have trouble with the language "substrate heated to a predetermined temperature in a direction from . . . ." While applicant does not agree with this rejection, it is easily addressed herein by adding commas to this phrase to make it more clear. In particular, this phrase has been amended in claim 12 to read "substrate,

heated to a predetermined temperature, in a direction from . . ." This should make it very clear that the "direction" is referring to how the substrate is moved – not to the temperature. Thus, the Section 112 rejection has been addressed and overcome.

Art Rejection

Claim 12 stands rejected under Section 103(a) as being allegedly unpatentable over Oda in view of Ellis. This Section 103(a) rejection is respectfully traversed for at least the following reasons.

Claim 12 requires "plural dispersion heads for discharging independently gaseous compounds for forming the film, means for positioning a bottom discharge end of a former dispersion head closer to a surface of the substrate than is a bottom discharge end of a latter dispersion head, means for conveying the silicon substrate heated to a predetermined temperature in a direction from a position immediately below a discharge port of the former dispersion head to a position immediately below discharge ports of the latter dispersion heads, and a partition provided between the dispersion heads and the silicon substrate, the partition being positioned at a circumference of bottom ends of dispersion ports of the latter dispersion head." Claim 12 thus requires (a) dispersion heads positioned at different distances from the silicon inclusive substrate; (b) means for conveying the silicon substrate from a dispersion head positioned closer to the silicon substrate toward the other dispersion head; and (c) a partition positioned at a circumference of the dispersion head positioned further from the silicon substrate. For example, see partition 10 in certain example figures, and the instant specification at page 27, lines 18+. The partition is advantageous, for example, in that when heads positioned at different distances from the substrate are used, the partition permits the gas discharged from the head positioned

farther to reach a desired site of a substrate surface without significant dissipation (e.g., pg. 14, line 25 to pg. 15, line 9).

Oda is flawed as discussed in the remarks section of the amendment filed November 1, 2004. As a result, the Office Action cites Ellis for the alleged teaching of "a partition provided between the dispersion heads and the silicon substrate, the partition being positioned at a circumference of bottom ends of dispersion ports of the latter dispersion head." The Office Action contends that element 28 in Fig. 1 of Ellis is "a partition provided between the dispersion heads and the silicon substrate, the partition being positioned at a circumference of bottom ends of dispersion ports of the latter dispersion head." This allegation is incorrect. Ellis refers to 28 as an "injector head base", not as a partition. If 28 in Ellis is merely the head base, it cannot be "a *partition* provided *between the dispersion heads and the silicon substrate*, the partition being positioned at a circumference of bottom ends of dispersion ports of the latter dispersion head" as required by claim 12. In other words, if 28 in Ellis is the head itself, it cannot be a partition which is located "between" the head and something else as called for in claim 12. The injector head base 28 of Ellis and the partition 10 of the instant application are entirely different structures, and are unrelated to each other. Thus, both references fail to disclose or suggest the claimed partition, and even if the two references were combined as alleged in the Office Action the invention of claim 12 still would not be met.

Additionally, it is pointed out that the cited art fails to disclose or suggest the combination of (a)-(c) set forth above. Moreover, no cited reference discloses the claimed partition positioned at a circumference of the dispersion head positioned further from the silicon substrate. The cited art is entirely silent with respect to aspect (c) discussed above. Thus, even

the alleged combination (which applicant believes would be incorrect in any event) fails to disclose or suggest the invention of amended claim 12.

Claim 14 requires that the means for positioning and means for conveying cause a titanium oxide film to be formed in a non-uniform manner so that a concentration of the dopant element in the film varies through a thickness of the film so that the concentration of the dopant element in the titanium oxide film is higher adjacent a surface of the substrate than at a location spaced further away from the surface of the substrate. For example, see the instant specification at page 22, lines 11-14. The cited art fails to disclose or suggest this aspect of claim 14.

For at least the foregoing reasons, it is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance. If any minor matter remains to be resolved, the Examiner is invited to telephone the undersigned with regard to the same.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____

Joseph A. Rhoa
Reg. No. 37,515

JAR:caj
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100